

Appl. No. 10/667,960
Atty. Docket No. CM2631MC
Amdt. dated 10/14/2004
Reply to Office Action of 07/14/2004
Customer No. 27752

REMARKS

Application Amendments

Claims 1-5 and 7-15 are pending in the present application. Claim 6 has been canceled. No additional claims fee is believed to be due.

Claims 1, 11, 13, and 14 have been amended as shown above to recite that the respective compositions have "a pH from about 9.5 to about 11". Support for this amendment can be found at page 16, lines 4-5 of the specification.

It is believed these changes do not involve any introduction of new matter. Consequently, entry of these changes is believed to be in order and is respectfully requested.

Provisional Double Patenting Rejection Over Co-Pending US Application No. 10/667,739

Claims 1, 6-11, and 13-15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 5-12, and 14 of co-pending US Application No. 10/667,739.

Upon receiving notice of allowance of US Application No. 10/667,739, Applicant is prepared to file a properly executed terminal disclaimer in compliance with 37 CFR 1.321(c). Therefore, it is believed that this provisional rejection can be overcome.

Rejections Under 35 USC 102(b) Over US Patent No. 6,004,355 to Dias et al.

Claims 1, 6, 8-10 and 15 are rejected under 35 USC 102(b) as being anticipated by US Patent No. 6,004,355 to Dias et al. ("Dias"). The Examiner asserts that Dias teaches a hair coloring composition comprising an oxidizing agent, conditioning agents such as silicones, and sequestrants (chelants) such as phosphonic acid derivatives, methyl cellulose as a thickener, and oxidative dye precursors, wherein the composition is an aqueous solution, and wherein the composition has a pH of 10. The Examiner also asserts that Dias teaches a kit comprising an oxidizing agent and one or more coloring agents. Thus, the Examiner concludes that Dias anticipates Applicants' claims. Applicants respectfully traverse the present rejection based on the following comments.

As currently amended, Applicants' claim 1 recites a composition comprising an oxidizing agent, a conditioning agent selected from the claimed group, and a chelant selected from phosphonic acid type chelants as claimed, wherein the composition has a pH from about 9.5 to about 11. Applicants' compositions containing chelants having a phosphonic acid moiety increase the deposition of conditioning agents on hair during or after an oxidative treatment, such as bleaching or dyeing, which are carried out in the pH range claimed by Applicants. This results in longer-lasting improved hair feel. It is believed that the phosphonic acid type chelants act to

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chelate environmental and intrinsic heavy metal ions which would otherwise react with the oxidizing agent to give harmful species such as free radicals which oxidize the disulfide bonds of hair in the pH range claimed by Applicants. It is further believed that non-cationic conditioning agents such as silicones deposit less efficiently on damaged hair. Therefore, the chelants, by reducing oxidative hair damage, increase the efficiency of the deposition of the conditioning agents.

In contrast, Dias discloses hair color compositions comprising a peroxygen oxidizing agent, an organic peroxyacid oxidizing aid, and oxidative hair color agents, wherein the compositions impart minimal damage to hair fibers at lower pH. See column 2, lines 43-48 of Dias. While Dias does not define "lower pH", Dias refers to conventional peroxide treatment which leads to hair damage as requiring "high pH (>pH 9)". See column 1, line 63 to column 2, line 3 of Dias. And, although Dias broadly describes hair color compositions having a pH from about 2 to about 12, the compositions of Dias require a peroxyacid oxidizing aid which must be at a much narrower range of pH to function as intended in Dias. It is known in the art that the optimum pH for an oxidizing agent is at its pKa. Dias specifically teaches that the pKa of the peroxyacid oxidizing aids are in the range of from about 7 to about 9.5. See column 4, lines 45-50 of Dias. At a pH of about 10, the peroxyacid oxidizing aids of Dias become deprotonated and, as such, are much weaker oxidizing agents. Further, Applicants have found that, at a pH above about 8, the peroxyacid oxidizing aids of Dias are more damaging to hair than oxidizing agents such as hydrogen peroxide. Because the compositions of Dias impart minimal damage to hair only at a pH range below the pH range of Applicants' claim 1, each and every element of Applicants' claim 1 is not disclosed in Dias.

Additionally, the compositions of Dias do not require chelants, let alone phosphonic acid type chelants. Dias, instead, broadly discloses many chelants as suitable optional components. Similarly, Dias only broadly discloses that hair conditioning agents can be added as an optional material to the compositions of Dias. None of the exemplified compositions of Dias contain a phosphonic acid type chelant and/or a conditioning agent. However, even if a composition of Dias contained a chelant and a conditioning agent as optional ingredients, such a composition would not deliver the same benefit of improved hair feel as Applicants' composition at the pH range of Applicants' claim 1 because the composition of Dias requires the peroxyacid oxidizing aid as discussed above.

Accordingly, each and every element of Applicants' claim 1 is not disclosed in Dias. Applicants' claims 6, 8-10, and 15 contain the limitations of claim 1. Therefore, Applicants' claims 1, 6, 8-10, and 15 are novel over Dias.

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Rejections Under 35 USC 103(a) Over US Patent No. 6,004,355 to Dias et al. in view of US Patent No. 3,542,918 to Berth et al.

Claims 2-5 are rejected under 35 USC 103(a) as being unpatentable over US Patent No. 6,004,355 to Dias et al. ("Dias") in view of US Patent No. 3,542,918 to Berth et al. ("Berth"). The Examiner asserts that Dias, as described above, teaches a hair coloring composition comprising an oxidizing agent, conditioning agents such as silicones, and sequestrants (chelants) such as phosphonic acid derivatives. The Examiner notes that Dias does not teach at least one of the chelants of the formulae (I) to (IV) and the chelants species of Applicants' claims. Then, the Examiner asserts that Berth teaches a composition comprising chelant compounds of a formula (3) which is similar to Applicants' formula (III), chelant compounds of a formula (4) which is similar to Applicants' formula (IIIa), chelant compounds of a formula (5) which is similar to Applicants' formula (IV), and chelant compounds of a formula (6) which is similar to Applicants' formula (IVa). Thus, the Examiner concludes that it would have been obvious to one of skill in the art to incorporate the chelants taught in Berth into the compositions of Dias because Berth discloses that aminopolyphosphonic acids and derivatives are used in hair treatment compositions to protect hair during bleaching and/or dyeing, and that such compositions would have similar properties to those claimed by Applicants, absent unexpected results. Applicants respectfully traverse the present rejection based on the following comments.

The combination of Dias and Berth does not teach or suggest all of Applicants' claim limitations and, therefore, does not establish a *prima facie* case of obviousness (MPEP 2143.03). Applicants' claims 2-5 contain the limitations of claim 1. Applicants' claim 1, as currently amended, recites a composition comprising an oxidizing agent, a conditioning agent selected from the claimed group, and a chelant selected from phosphonic acid type chelants as claimed, wherein the composition has a *pH from about 9.5 to about 11*. Dias, as discussed above, teaches away from Applicants' compositions having a pH from about 9.5 to about 11 which can protect hair from oxidative damage. As discussed above, Applicants' compositions containing chelants having a phosphonic acid moiety increase the deposition of conditioning agents on hair during or after an oxidative treatment, such as bleaching or dyeing, which are carried out in the pH range claimed by Applicants. This results in longer-lasting improved hair feel.

Additionally, although Berth describes aminopolyphosphonic acids, one of skill in the art would not expect a composition of Dias which incorporates the chelants of Berth to have similar properties as Applicants' claimed compositions at a pH range from about 9.5 to about 11. As discussed above, the compositions of Dias require a peroxyacid oxidizing aid which must be at a particular range of pH to function as intended in Dias. It is known in the art that the optimum pH for an oxidizing agent is at its pKa. Dias specifically teaches that the pKa of the peroxyacid

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oxidizing aids are in the range of from about 7 to about 9.5. See column 4, lines 45-50 of Dias. At a pH of about 10, the peroxyacid oxidizing aids of Dias become deprotonated and, as such, are much weaker oxidizing agents. Further, Applicants have found that, at a pH above about 8, the peroxyacid oxidizing aids of Dias are more damaging to hair than oxidizing agents such as hydrogen peroxide.

Therefore, Applicants' claims 2-5 are novel and nonobvious over Dias in view of Berth.

Rejections Under 35 USC 103(a) Over US Patent No. 6,004,355 to Dias et al. in view of US Patent No. 4,138,478 to Reese et al.

Claim 7 is rejected under 35 USC 103(a) as being unpatentable over US Patent No. 6,004,355 to Dias et al. ("Dias") in view of US Patent No. 4,138,478 to Reese et al. ("Reese"). The Examiner asserts that Dias teaches hair coloring compositions, as described above, wherein the compositions are thickened aqueous compositions. The Examiner notes that Dias does not teach a hair treatment composition in the form of an oil-in-water emulsion. Then, the Examiner asserts that Reese teaches a hair bleaching or dyeing composition wherein the composition is in the form of a fluid bath, dry powder, paste, cream emulsions of oil-in-water. The Examiner further asserts that Reese also teaches hair color composition which comprises an oxidizing agent and a diphosphonic compound. Thus, the Examiner concludes that it would have been obvious to one of skill in the art to formulate the composition of Dias in the form of an oil-in-water emulsion as taught by Reese because Reese describes different forms of hair treating compositions. Applicants respectfully traverse the present rejection based on the following comments.

The combination of Dias and Reese does not teach or suggest all of Applicants' claim limitations and, therefore, does not establish a *prima facie* case of obviousness (MPEP 2143.03). Applicants' claim 7 contains the limitations of claim 1. Applicants' claim 1, as currently amended, recites a composition comprising an oxidizing agent, a conditioning agent selected from the claimed group, and a chelant selected from phosphonic acid type chelants as claimed, wherein the composition has a pH from about 9.5 to about 11. Dias, as discussed above, teaches away from Applicants' compositions having a pH from about 9.5 to about 11 which can protect hair from oxidative damage. As discussed above, Applicants' compositions containing chelants having a phosphonic acid moiety increase the deposition of conditioning agents on hair during or after an oxidative treatment, such as bleaching or dyeing, which are carried out in the pH range claimed by Applicants. This results in longer-lasting improved hair feel.

Additionally, although Reese discloses that its compositions may be in the form of an emulsion, one of skill in the art would not be motivated to formulate the composition of Dias into

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an emulsion because the peroxyacid oxidizing aids of Dias, which are required components of the compositions of Dias, are difficult to solubilize, especially in an oil-in-water emulsion.

Therefore, Applicants' claim 7 is novel and nonobvious over Dias in view of Reese.

Rejections Under 35 USC 103(a) Over US Patent No. 6,004,355 to Dias et al.

Claims 11-14 are rejected under 35 USC 103(a) as being unpatentable over US Patent No. 6,004,355 to Dias et al. ("Dias"). The Examiner asserts that Dias teaches methods for coloring hair comprising the steps of applying compositions that comprise an oxidizing agent, oxidation dye precursors, conditioning agents, and chelating agents of phosphonic acid derivatives. The Examiner notes that Dias does not teach Applicants' claimed methods with sufficient specificity to constitute anticipation of the claims. However, the Examiner asserts that it would have been obvious to one of skill in the art to use the methods of Dias with a composition that comprises similar ingredients to the compositions of Dias. Applicants respectfully traverse the present rejection based on the following comments.

As currently amended, Applicants' claim 11 recites a method which requires (i) contacting hair with a first composition comprising (a) a conditioning agent selected from the claimed group, and (b) a chelant selected from phosphonic acid type chelants as claimed, and (ii) contacting hair immediately after step (i) with a second composition comprising an oxidizing agent, wherein said second composition has a pH from about 9.5 to about 11. Applicants' first composition of claim 11 can protect hair from damage that occurs during oxidative treatments, such as bleaching and dyeing, which are carried out in the pH range claimed by Applicants.

In contrast, Dias discloses methods which comprise applying hair color compositions comprising a peroxygen oxidizing agent, an organic peroxyacid oxidizing aid, and oxidative hair color agents, wherein the compositions impart minimal damage to hair fibers *at lower pH*. As discussed above, the compositions of Dias require a peroxyacid oxidizing aid which must be at a much narrower range of pH to function as intended in Dias. It is known in the art that the optimum pH for an oxidizing agent is at its pKa. Dias specifically teaches that the pKa of the peroxyacid oxidizing aids are in the range of from about 7 to about 9.5. Additionally, Dias discusses conventional peroxide treatment which leads to hair damage as requiring "high pH (>pH 9)". As a result, Dias teaches away from compositions having a pH greater than 9.

Accordingly, Applicants' claim 11 would not have been obvious to one of ordinary skill in the art. Claim 12 contains the limitations of claim 11. The methods of claims 13 and 14, as currently amended, require the respective compositions to have a pH from about 9.5 to about 11, and, thus, an argument analogous to that for claim 11 applies. Therefore, Applicants' claims 11-14 are novel and nonobvious over Dias.

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CONCLUSION

In light of the amendments and remarks presented herein, it is requested that the Examiner reconsider and withdraw the present rejections. Early and favorable action in the case is respectfully requested.

Applicant has made an earnest effort to place their application in proper form and to distinguish the invention as now claimed from the applied references. In view of the foregoing, Applicant respectfully requests reconsideration of this application, entry of the amendments presented herein, and allowance of Claims 1-15.

Respectfully submitted,

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